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OF AN OPERATIONAL INVESTMENT POLICY DURING
PERIODS OF INFLATION

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INFLATION AND PORTFOLIO MANAGEMENT: A TEST OF AN
OPERATIONAL INVESTMENT POLICY DURING PERIODS OF INFLATION*

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for computational assistance.

INFLATION AND PORTFOLIO MANAGEMENT:
A TEST OF AN OPERATIONAL INVESTMENT POLICY
DURING PERIODS OF INFLATION*

INTRODUCTION

Recent research has shown common stocks to be poor investments during periods of significant inflation (i.e., assuming an investment at the beginning of inflation and sale at the end). However, there have been subperiods within a period of prolonged inflation when common stocks have generated positive rates of return; indeed, under some investment decision rules, the potential returns were substantial.¹ In particular, the research indicates that investing in common stocks during periods when the rate of inflation was low or declining was quite profitable. The decision rules employed in this research were intuitive and demonstrate the importance of considering the level of inflation and changes in the level of inflation. However, the practical usefulness of such decision models is questionable because they required the portfolio manager to estimate future inflation.

In response to such objections, this paper presents a realistic test of the basic decision rules employing available estimates of inflation. Specifically, we follow an investment policy of investing in common stocks when economists project either a relatively low rate of inflation or a decline in the rate of inflation. In periods when economists project an increase in the

¹Frank K. Reilly, "Common Stock Portfolio Policy During a Period of Significant Inflation," Journal of Portfolio Management, Vol. 1, No. 4, (Summer, 1975).

rate of inflation, we assume an investment in three-month or six-month treasury bills. Using this portfolio revision policy, and considering normal brokerage fees, we examine the beginning and ending wealth position of the investor. This wealth position is compared to the one resulting from the following investment policies: a naive buy-and-hold common stock policy; a policy of constant investment in T-bills; and an inflation-oriented investment policy assuming perfect foresight regarding future rates of inflation.

The initial section briefly examines the appropriate investment philosophy during a period of significant inflation. The second section explains the details of the investment simulation. In the third section, the simulation results are reported and discussed. The fourth section is a summary and discussion of the implication of these results for portfolio managers.

INVESTMENT POLICY DURING SIGNIFICANT INFLATION

If we assume that the value of a firm is the discounted value of its expected future earnings, any event that increases the firm's expected earnings stream will, ceteris paribus increase the value of the firm. In contrast, any event that increases the discount rate applied to the firm's earnings will, ceteris paribus, result in a decline in the value of the firm. During a period of significant inflation the crucial question is the effect of inflation on these two variables: expected earnings and the investor's discount rate.

Before the current period of significant inflation, which started in 1966, it was generally believed that inflation was good for corporations. This belief was based upon the net debtor hypothesis, which contended that net debtor firms (i.e., those with more monetary liabilities than monetary

assets) would gain during inflation.² In addition, it was generally believed that wage increases lagged behind price changes during inflation, and therefore, business firms gained at the expense of laborers (i.e., the wage-lag hypothesis). These hypotheses indicated that corporations would experience increased earnings during periods of inflation and common stockholders would profit from the resulting increase in the value of the firm.

Unfortunately for common stock investors, these conclusions overlooked two important factors. First, not all firms experience an increase in earnings during inflation because not all firms are net debtors. DeAlessi has shown that only about half of all U.S. firms are net debtors.³ In addition, some have contended that there is no wage-lag,⁴ while others have argued that the wage-lag is only a short-run phenomenon.⁵ In either case, one would not expect the wage-lag to be of major importance.

The second factor ignored by those expecting common stocks to be a good investment during inflation is the effect of inflation on the required rate of return. A number of years ago Irving Fisher argued convincingly that individuals invest their capital to increase their future real wealth by

²A major test of the hypothesis generated supporting evidence for firms that were net debtors. See Reuben A. Kessel, "Inflation-Caused Wealth Redistribution: A Test of a Hypothesis," American Economic Review, Vol. 46, No. 1 (March, 1956), pp. 43-66.

³Louis DeAlessi, "Do Business Firms Gain from Inflation?" Journal of Business, Vol. 37, No. 2 (April, 1964), pp. 162-166.

⁴Thomas F. Cargill, "An Empirical Investigation of the Wage-Lag Hypothesis," American Economic Review, Vol. 59, No. 5 (December, 1969), pp. 806-16; Reuben A. Kessel and Armen A. Alchian, "The Meaning and Validity of the Inflation-Induced Lag of Wages Behind Prices," American Economic Review, Vol. 50, No. 1 (March, 1960), pp. 43-66.

⁵Frank K. Reilly, "Companies and Common Stocks as Inflation Hedges," The Bulletin (Institute of Finance, New York University, March, 1975).

some amount that is their required rate of return.⁶ In an inflation-free environment, this required return is a function of the prevailing risk-free rate of return plus a risk premium that is determined by the uncertainty of returns. Obviously, if investors expect an increase in the general price level, they will increase their nominal required rate of return by this percentage in order to maintain their real required rate of return. Therefore, inflation should directly affect the discount rate, and this effect will be irrespective of its effect on expected earnings.

In summary, the value of business firms, and the value of their common stock, will be increased by a rise in the level of expected earnings during periods of inflation. However, this rise is not universal. In contrast, all firms and their common stock will be adversely affected by an increase in the rate of inflation because all investors should increase their required rate of return. Therefore, the level of inflation is an important determinant of aggregate stock price movements. More important, however, for the analysis of short-run stock price movements, are changes in the level of inflation. If a significant rate of inflation stabilizes, the market will adjust stock prices to this stable level of inflation and, if no further changes occur, stock prices should return to their normal pattern of increases and generate returns consistent with the stipulated higher required rate of return.⁷ Once this new equilibrium at a high rate of inflation is established, the important

⁶Irving Fisher, The Theory of Interest (New York: Macmillan, 1930). A recent discussion of the point is contained in, William E. Gibson, "Interest Rates and Inflationary Expectations: New Evidence," American Economic Review, Vol. 62, No. 5 (December, 1972), p. 855.

⁷See Frank K. Reilly, "Companies and Common Stocks," Op. Cit. Section II, also William C. Freund, "What 'Bad New Era' for Stocks?" Fortune (April, 1972), pp. 45, 46, 48, 50, 52.

factor becomes change in the rate of inflation. Any significant increase in the rate of inflation should cause a decline in stock prices, while any substantial decrease in the rate of inflation should be bullish for stock prices. It is important to note that, if the inflation rate is rather high (over 10 per cent), it is not necessary that the rate decline to an insignificant value (e.g., less than 3 per cent), it is only important that the decline be substantial (e.g., from 10 per cent to 7 per cent). In such an instance, we would expect the change in the rate of inflation to be beneficial for stock prices; even though the absolute inflation rate remains high.

SPECIFICATION OF ALTERNATIVE INVESTMENT POLICIES

The discussion in the preceding section suggests that a portfolio manager should be fully invested in common stocks during periods when the outlook is for a stable rate of inflation or a decline in the rate of inflation. In contrast, when an increase in the rate of inflation is expected, portfolio managers should sell their common stock portfolio and invest in short-term Treasury Bills. As a test of this investment policy, we assume a beginning wealth position of \$10,000 and examine the results with each of the following four investment policies:

1. Constant investment and reinvestment in T-Bills.
2. Buy and hold a common stock portfolio for the period.
3. Active inflation-oriented portfolio management with perfect foresight regarding the future rate of inflation.
4. Active inflation-oriented portfolio management using actual projections of the rate of inflation made by a panel of prominent economists.

Constant T-Bill Investment

The portfolio manager consistently invests and reinvests in six-month T-Bills (or three-month T-Bills in a subsequent analysis). No commissions are included in the purchase of T-Bills because it is assumed that the portfolio manager acquires the next set of T-Bills at the average "asked" price (i.e., dealers' commissions are part of the spread between bid and asked prices).

Buy and Hold Common Stocks

The portfolio manager invests the \$10,000 (less 1 per cent commission) in common stocks as represented by the Standard and Poor's 425 Index (S&P 425), holds the portfolio for the total period and sells at the end of the period (less 1 per cent commission). All dividends received are reinvested in the market portfolio without a commission charge.

Active Portfolio Management with Perfect Foresight

The portfolio manager alternates his portfolio between common stocks and T-Bills based upon the outlook for inflation as discussed in the preceding section. Specifically, when the rate of inflation is expected to be "stable" or to decline the portfolio is invested in the S&P 425; when the rate of inflation is expected to increase, the portfolio is invested in T-Bills. The notion of perfect foresight means that we assume the portfolio manager knows what the actual rate of inflation will be during the forthcoming period. Such an assumption allows us to examine the usefulness of the decision rule implied by the prior theoretical discussion without being concerned with the ability of the portfolio manager or others to predict inflation correctly.

We have defined the rate of inflation as stable when it is not expected to increase by more than 10 per cent of the prevailing rate. As an example,

an increase from a rate of inflation of 10 per cent to a rate of 11 per cent would be considered a significant increase and would indicate that the portfolio manager should either remain in T-Bills or switch into T-Bills.

The results of this investment policy are examined both with and without commissions. One-way commissions are included on all purchases and sales of common stock at the rate of 1 per cent. As before, no commissions are assigned for T-Bill transactions because it is assumed that they are purchased at the average offering price and held to maturity.

Active Portfolio Management Using Projections of Inflation

All aspects of this simulation are the same as those described in the preceding section except that the portfolio manager bases his investment decisions on projections of the rate of inflation made by a panel of prominent economists. The projections used are those reported by Mr. J. A. Livingston in the Philadelphia Enquirer and result from a survey of approximately 65 prominent business, government and academic economists who biannually estimate the rate of inflation for the coming 6, 12, and 18 months. (Members of a recent panel are listed in the Appendix.) In testing the investment policy outlined above, we have used the 6 month estimates of inflation both because they should be the most accurate and because this approach permits the maximum number of portfolio revision decisions.

THE RESULTS OF ALTERNATIVE INVESTMENT POLICIES

The results are presented and discussed below. Initially we consider the results for the four investment policies assuming a six-month investment horizon during the period June, 1965, through December, 1974. Subsequently we analyze the results assuming a three-month investment horizon during the

period January, 1966, through December, 1974. This latter analysis only considers the first three policies because the panel does not make projections of inflation for three month periods.

Six-Month T-Bill Results

The results for both the six-month T-Bill policy and the buy-and-hold stock policy are contained in Table 1. The constant investment and reinvestment in six-month T-Bills, in which we assumed the investor always bought at the offering price, resulted in an ending wealth position of \$17,067, which is an annual rate of return of 5.9 per cent over the 9½-year period.

Buy-and-Hold Stock

The buy-and-hold stock results indicate that the investor started with a portfolio worth \$9,900 after commissions, earned \$3,374 in dividends over the period, and sold the stock portfolio for \$8,409 in 1974 after commissions--a capital loss for the total period of 14.2 per cent. The ending wealth position of \$11,783 implies a 1.8 per cent annual rate of return for the period. Notably, this return on common stocks is substantially lower than the long-run average derived by Fisher and Lorie and even below the return available on low risk government T-Bills.⁸ These results are consistent with the evidence from previous studies concerning the returns from investing in common stock during total periods of inflation.⁹ This is additional

⁸Lawrence Fisher and James Lorie, "Rates of Return on Investments in Common Stock, The Year-By-Year Record, 1926-1965," Journal of Business, Vol. 41, No. 3 (July, 1968), pp. 291-316.

⁹Frank K. Reilly, Glenn L. Johnson, and Ralph E. Smith, "Inflation, Inflation Hedges, and Common Stocks," Financial Analysts Journal, Vol. 26, No. 1, (January/February, 1970), pp. 104-10; F. K. Reilly, G. L. Johnson, and R. E. Smith, "Common Stocks as Inflation Hedges--The After Tax Case," Southern Journal of Business, Vol. 7, No. 4, (November, 1972), pp. 101-6; F. K. Reilly, R. E. Smith, G. L. Johnson, "A Correction and Update Regarding Individual Common Stocks as Inflation Hedges," Journal of Financial and Quantitative Analysis, (forthcoming).

evidence that common stocks are not inflation hedges and, in fact, are poor investments during total periods of inflation.

Active Portfolio Management with Perfect Foresight

The figures shown in Table 2 indicate what would have happened to an investor who followed an active portfolio policy, had perfect foresight regarding inflation, and did not have to pay commissions. Such an investor would have ended with a wealth position of \$15,408 after the 9½ years--an annual rate of return of 4.3 per cent. He would have experienced several periods of high returns (1-67, 2-70, 1-71), but would also have invested in stocks during several very poor periods (2-66, 1-70, 2-74). The substantial loss during the final period was especially disastrous. It caused the ending wealth position (and the annual rate of return) to fall below the results obtained from a naive T-Bill policy.

When we assume commissions, the results are, obviously, similar since all decisions and returns are the same. With commissions deducted, the ending wealth position was \$1,334 less (\$14,074). The annual return was 3.7 per cent. The commission costs would have been larger except for two periods with few portfolio revisions--i.e., from June, 1969, through December, 1971, when the investor would remain in stocks, and from January, 1972, through June, 1974, when the decision rule called for constant investment in T-Bills.

Active Portfolio Management Using Inflation Estimates

The results from following our inflation-oriented investment policy using the economists' estimates of future inflation rates are shown in Table 3. We would expect a difference between these results and those derived from perfect foresight because the investment decision was different during 8 of the 10 periods. Without commissions, the ending wealth position was \$11,858,

which represents an annual rate of return for the period of 1.8 per cent. These results, which are substantially below the T-Bill and perfect foresight results, are attributable to the commitment to common stock during several periods of large negative returns--most notably 1-70 (-20 per cent) 1-73 (-12 per cent) and 2-74 (-17.8 per cent). Profitable investments were made during several good six month periods (2-65, 1-67, 2-67, 1-71, and 1-72).

Again, when we assume commissions, the results are similar, since the decisions and returns are the same. The ending wealth position of \$10,406 indicates commissions of \$1,452 during the period. The commissions were slightly higher than those under the perfect foresight assumption because there were more switches using the estimates of inflation (13 versus 9). The lower capital values partially offset the larger number of switches.

The ending wealth position of \$10,406 implies an annual return of 0.4 per cent, which was easily the lowest return derived from all the alternatives considered. Thus, it appears that portfolio managers who subscribed to the theory presented in the initial section of this article, and attempted to implement it by using the estimates of inflation provided by a panel of econcnists, would not have fared very well.

Summary of Six Month Results

The results when the portfolio manager made his decision every six months during a period of significant inflation were not encouraging regarding investment in common stocks. Specifically, the best results were derived from the naive policy of constantly investing in six-month T-Bills. This performance was followed by that derived from a policy of switching between stocks and T-Bills assuming perfect foresight regarding inflation. The poorest results were derived from a buy-and-hold common stock philosophy and

a policy of active portfolio management using the estimates of inflation by a panel of economists.

Results Assuming a Three Month Horizon

We also examined investment results assuming a three-month investment horizon because logic suggests that most portfolio managers would not, in reality, adjust their portfolio only twice a year. Also, given the high volatility in the rate of inflation during this period, an empirical case can be made for more frequent adjustments; i.e., if changes in the rate of inflation are important and the rate changes frequently then portfolios should be adjusted more frequently.

Because the Livingston panel only makes projections for a minimum of six months, it was not possible to examine results using inflation estimates. The time period for this analysis is from December 31, 1965, through December 31, 1974, a nine-year period.

Three-Month T-Bill Results

The results in Table 4 show an ending wealth position of \$16,432, which indicates an annual rate of return of 5.7 per cent. These results, which represent a slightly lower return than that generated from a comparable six month policy, were caused by the rate differential between six-month T-Bills and three-month T-Bills. This yield difference is, of course, consistent with the lower price risk inherent in the shorter term instrument.

Buy-and-Hold Stock Results

These results, also shown in Table 4, are similar to the six-month common stock results because the major differences are that the dividend return is compounded more often and the period begins at a different time.

The ending wealth position of \$10,814 includes total dividends of \$3,203 and a capital component of \$7,611 after the sales commission (a decline in value of 22 per cent). The ending wealth position implies an annual rate of return of 0.90 per cent for the period.

Perfect Foresight Without Commission

These results, shown in Table 5, assume a three month investment horizon and no commissions. They are similar to the analysis presented in an earlier paper (see footnote 1) that examined a policy of investing when the inflation rate was stable or declining and not investing during other periods. In this analysis, we employ the same concept but consider investing in T-Bills.

The results indicate very favorable investment returns (without brokerage fees) from an inflation-oriented portfolio revision policy implemented quarterly. Specifically, the ending wealth position of \$22,584 implies an annual rate of return of 9.5 per cent. This rate of return is clearly higher than that resulting from the alternative investment policies. These superior results confirm the usefulness of inflation-oriented portfolio management; i.e., it is clearly worthwhile to adjust a common stock portfolio quarterly on the basis of changes in the rate of inflation if the portfolio manager has superior insights regarding the future direction of inflation.

Perfect Foresight with Commission

When we assume perfect foresight regarding inflation and include the payment of trading commissions, the results are dramatically different from the results without commissions. The results including commissions indicate an ending wealth position of \$16,870, which represents an annual rate of return of 6.0 per cent. The difference in the ending wealth positions of \$5,714 is a result of the commissions paid and constitutes a decrease in

wealth of 25 per cent (\$5,714/\$22,544). The extremely heavy commissions are attributable to numerous switches from stocks to T-Bills and back to stocks during the period; during the 36 quarters within the nine-year interval there were 29 switches.

CONCLUSIONS AND IMPLICATIONS

This paper examined extensively the comparative results from employing an investment policy that takes cognizance of changes in the rate of inflation. Following an explanation of why such a policy should be of value, two simulations of inflation-oriented investment policies were conducted--one assuming perfect foresight regarding inflation and one using estimates of inflation by a panel of economists. These results were compared to two naive investment policies--one investing only in T-Bills and one buying and holding common stocks for the total period. The following summarizes the annual rates of return from the four investment policies:

	6 Month Horizon		3 Month Horizon	
	w/o Comm.	with Comm.	w/o Comm.	with Comm.
T-Bills	--	5.9%	--	5.7%
Buy-and-Hold Stocks	--	1.8%	--	0.9%
Active Management with Foresight of Inflation	4.3%	3.7%	9.5%	6.0%
Active Management using Inflation Estimates	1.8%	0.4%	N/A	N/A

When a six-month investment horizon is assumed, the best results were derived from the constant investment in six-month T-Bills. Somewhat inferior returns were derived from an active portfolio policy by a portfolio manager

with perfect foresight regarding the rate of inflation. Consistent with prior studies, a buy-and-hold common stock policy for the total period resulted in returns of less than 2 per cent. Finally, the worst results were derived from active portfolio management using the estimates of inflation made by a panel of economists.

The simulations that assumed a three-month investment horizon generated similar results for the two naive policies of investing in T-Bills and buying and holding stocks. A major difference came in the simulations that considered an active portfolio policy and assumed perfect foresight regarding inflation. The results without commissions indicated a rate of return of 9.5 per cent, which was higher than the return for all other alternative policies considered. A comparable simulation with commissions resulted in annual rate of return of 6 per cent, which was still slightly above any of the alternatives.

Conclusions

A constant investment in T-Bills during a total period of significant inflation is superior to a policy of buy-and-hold common stocks simply because, as has been demonstrated in several studies, common stocks are poor investments during the total period. In contrast, the notion of an active, inflation-oriented portfolio policy appears to be a viable alternative if the portfolio manager has the ability to correctly estimate future changes in the rate of inflation. Notably, because of the volatility in the rate of inflation and the relatively rapid adjustment of stock prices to changes in the rate during such a period, the best results are derived from more frequent portfolio adjustment.

Finally, the analysis of an active portfolio policy using available estimates of inflation could only be tested using a six-month horizon because

three-month estimates were not available. The results differed significantly from those assuming perfect foresight about inflation. In fact, when commissions were deducted the results were the worst of all alternatives.

Implications

Profitable investing in common stocks during a period of significant inflation is only possible if the portfolio manager adopts an active inflation-oriented policy and has the ability to project changes in the rate of inflation quarterly. Obviously, predicting inflation is not easy; at least, our results suggest that the predictions made by our panel of economists were less than totally accurate.

Finally, the rate of return from active common stock portfolio management with commissions deducted was extremely close to that obtained from the naive policy of investing in T-Bills (6.0 per cent versus 5.7 per cent). This result might be interpreted as supporting the efficient market hypothesis, since it suggests that even with perfect foresight regarding inflation it is difficult to obtain returns better than those available from a naive investment policy when trading commissions are considered.

Economists Participating In Livingston Survey, 1974

APPENDIX

Gardner Ackley, University of Michigan
 Daniel S. Ahearn, Wellington Management Company
 Ernst Anspach, Leob, Rhoades and Company
 Terry Barr, Department of Agriculture
 V. Lewis Bassie, University of Illinois
 Louis H. Bean, Arlington, Virginia
 D. O. Bowman, California State University
 Francis X. Burkhardt, International Brotherhood
 of Allied Trades
 James A. Byrd, First National Bank of Dallas
 Keith M. Carlson, Federal Reserve Bank of St. Louis
 Ewan Clague, Washington, D.C.
 James M. Dawson, National City Bank of Cleveland
 John V. Deaver, Ford Motor Company
 Robert G. Dederick, Northern Trust Company
 Robert Dennis, National Economic Projections
 Series, National Planning Association
 Robert J. Eggert, RCA Corporation
 Albert S. Epstein, International Association of
 Machinists and Aerospace Workers
 Richard D. Esposito, Mobil Oil Corporation
 Richard W. Everett, Chase Manhattan Bank
 J. Robert Ferari, The Prudential Insurance Company
 Tilford Gaines, Manufacturers Hanover Trust Company
 Clayton Gehman, Business Conditions Section,
 Federal Reserve Board
 James M. Goldberg, Crocker National Bank
 Nathaniel Goldfinger, AFL-CIO
 Ralph T. Green, Federal Reserve Bank of Dallas
 Douglas Greenwald, McGraw-Hill, Incorporated
 David L. Grove, IBM Corporation
 A. Gilbert Heebner, Philadelphia National Bank

Homer Jones, St. Louis
 George E. Keefe, Moody's Investors Service Incorporated
 John W. Kendrick, George Washington University
 L. R. Klein, University of Pennsylvania
 C. E. Leibacher, Standard Oil Company
 Ted McGee, General Motors Corporation
 George W. McKinney, Jr., Irving Trust Company
 Carl H. Madden, United States Chamber of Commerce
 A. James Meigs, Argus Research Corporation
 Edmund A. Mennis, Security Pacific National Bank
 Roy E. Moor, A. G. Becker and Company
 Frank P. Murphy, General Electric Company
 Robert R. Nathan, Robert R. Nathan Associates
 Guy E. Noyes, Morgan Guaranty Trust Company
 James J. O'Leary, United States Trust Company
 Lief H. Olsen, First National City Bank
 Sanford S. Parker, Fortune Magazine
 Robert W. Paterson, University of Missouri
 Richard S. Peterson, Continental Illinois National
 Bank and Trust Company
 William H. Peterson, Glendale, Arizona
 Frank J. Poper, General Motors Corporation
 Donald L. Raiff, Federal Reserve Bank of Philadelphia
 Francis H. Schott, Equitable Life Assurance Society
 Irving Schweiger, University of Chicago
 Beryl W. Sprinkel, Harris Trust and Savings Bank
 Hugh Stokely, Girard Bank
 Lazare Teper, International Ladies Garment Worker's
 Union
 W. W. Tongue, University of Illinois
 Jon G. Udell, University of Wisconsin
 David T. Wendell, David L. Babson and Company, Incorporated
 J. P. Wernette, University of Michigan
 Simon N. Whitney, New York University
 Seymour Wolfbein, Temple University

SEMI-ANNUAL RETURNS FROM NAIVE T-BILL
POLICY AND BUY-AND-HOLD COMMON STOCK POLICY

Ending Sale: \$9,900 X .8580 = \$8,494
- 85 Comm.
\$8,409

Ending Wealth: \$8,409 Capital
3,374 Dividend
\$11,783

TABLE 2

SEMI-ANNUAL RETURNS FROM AN ACTIVE PORTFOLIO
POLICY ASSUMING PERFECT FORESIGHT REGARDING INFLATION

Half/Year	Dec.	Without Commission			With Commission				
		BW	Yld.	EW	BW	Comm.	IW	Yld.	EW
2/65	S	\$10,000	11.234	\$11,123	\$10,000	100	\$ 9,900	11.234	\$11,012
1/66	T	11,123	2.301	11,379	11,012	110	10,902	2.301	11,153
2/66	S	11,379	-5.346	10,771	11,153	112	11,041	-5.346	10,451
1/67	S	10,771	16.645	12,563	10,451	-	10,451	16.645	12,191
2/67	T	12,563	1.975	12,812	12,191	122	12,069	1.975	12,307
1/68	T	12,812	2.757	13,165	12,307	-	12,307	2.757	12,646
2/68	S	13,165	6.112	13,969	12,646	126	12,520	6.112	13,285
1/69	T	13,969	3.200	14,416	13,285	133	13,152	3.200	13,573
2/69	S	14,416	-3.188	13,956	13,573	136	13,437	-3.188	13,008
1/70	S	13,956	-20.046	11,158	13,008	-	13,008	-20.046	10,400
2/70	S	11,158	26.311	14,094	10,400	-	10,400	26.311	13,136
1/71	S	14,094	11.931	15,776	13,136	-	13,136	11.931	14,703
2/71	S	15,776	3.401	16,312	14,703	-	14,703	3.401	15,203
1/72	T	16,312	1.976	16,635	15,203	152	15,051	1.976	15,348
2/72	T	16,635	2.242	17,008	15,348	-	15,348	2.242	15,692
1/73	T	17,008	2.657	17,459	15,692	-	15,692	2.657	16,109
2/73	T	17,459	3.650	18,097	16,109	-	16,109	3.650	16,697
1/74	T	18,097	3.568	18,742	16,697	-	16,697	3.568	17,293
2/74	S	18,742	-17.791	15,408	17,293	173	17,120	-17.791	14,074

BW - Beginning Wealth; IW - Invested Wealth; EW - Ending Wealth

TABLE 3

SEMI-ANNUAL RETURNS FROM AN ACTIVE PORTFOLIO POLICY
ASSUMING THE USE OF ECONOMISTS ESTIMATES OF INFLATION

Half/Year	Dec.	Without Commission			With Commission				
		BW	Yld.	EW	BW	Comm.	IW	Yld.	EW
2/65	S	\$10,000	11.234	\$11,123	\$10,000	100	\$ 9,900	11.234	\$11,012
1/66	T	11,123	2.301	11,379	11,012	110	10,902	2.301	11,153
2/66	T	11,379	2.417	11,654	11,153	-	11,153	2.417	11,423
1/67	S	11,654	16.645	13,594	11,423	114	11,309	16.645	13,191
2/67	S	13,594	8.272	14,719	13,191	-	13,191	8.272	14,234
1/68	T	14,719	2.757	15,125	14,282	143	14,139	2.757	14,529
2/68	T	15,125	2.742	15,539	14,529	-	14,529	2.742	14,927
1/69	S	15,539	-3.560	14,986	14,927	149	14,777	-3.560	14,251
2/69	S	14,986	-3.188	14,508	14,251	-	14,251	-3.188	13,797
1/70	S	14,508	-20.046	11,600	13,797	-	13,797	-20.046	11,031
2/70	T	11,600	3.465	12,002	11,031	110	10,921	3.465	11,299
1/71	S	12,002	11.931	13,434	11,299	113	11,186	11.931	12,521
2/71	T	13,434	2.639	13,788	12,521	125	12,396	2.639	12,723
1/72	S	13,788	8.615	14,976	12,723	127	12,596	8.615	13,181
2/72	T	14,976	2.242	15,312	13,681	137	13,544	2.242	13,848
1/73	S	15,312	-12.250	13,436	13,848	138	13,710	-12.250	12,581
2/73	T	13,436	3.650	13,927	12,031	120	11,911	3.650	12,346
1/74	T	13,927	3.568	14,424	12,346	-	12,346	3.568	12,786
2/74	S	14,424	-17.791	11,858	12,786	128	12,658	-17.791	10,406

TABLE 4

QUARTERLY RATES OF RETURN FROM A CONSTANT T-BILL
POLICY AND A BUY-AND-HOLD COMMON STOCK POLICY

Qtr/Yr	Constant 3 Mo. T-Bill			Buy-and-Hold Stock		
	BW	Yld.	EW	BW	Div. Yld.	EW
1/66	\$10,000	1.11	\$10,111	\$ 9,900	0.74	\$ 9,973
2/66	10,111	1.14	10,226	9,973	0.77	10,050
3/66	10,226	1.11	10,340	10,050	0.83	10,133
4/66	10,340	1.38	10,483	10,133	0.91	10,225
1/67	10,483	1.19	10,608	10,225	0.88	10,315
2/67	10,608	1.04	10,718	10,315	0.78	10,395
3/67	10,718	0.87	10,811	10,395	0.77	10,470
4/67	10,811	1.16	10,936	10,470	0.72	10,545
1/68	10,936	1.25	11,073	10,545	0.72	10,621
2/68	11,073	1.30	11,217	10,621	0.79	10,705
3/68	11,217	1.31	11,364	10,705	0.72	10,782
4/68	11,364	1.29	11,511	10,782	0.71	10,859
1/69	11,511	1.57	11,692	10,859	0.71	10,936
2/69	11,692	1.49	11,866	10,936	0.73	11,016
3/69	11,866	1.63	12,059	11,016	0.76	11,100
4/69	12,059	1.79	12,275	11,100	0.80	11,189
1/70	12,275	2.02	12,523	11,189	0.81	11,280
2/70	12,523	1.57	12,720	11,280	0.84	11,375
3/70	12,720	1.66	12,931	11,375	1.04	11,493
4/70	12,931	1.45	13,118	11,493	0.88	11,594
1/71	13,118	1.21	13,277	11,594	0.79	11,686
2/71	13,277	0.88	13,394	11,686	0.72	11,770
3/71	13,394	1.27	13,564	11,770	0.73	11,856
4/71	13,564	1.17	13,723	11,856	0.73	11,943
1/72	13,723	0.93	13,851	11,943	0.71	12,028
2/72	13,851	0.96	13,984	12,028	0.66	12,107
3/72	13,984	1.01	14,125	12,107	0.66	12,180
4/72	14,125	1.15	14,287	12,180	0.65	12,259
1/73	14,287	1.28	14,470	12,259	0.61	12,334
2/73	14,470	1.56	14,696	12,334	0.66	12,415
3/73	14,696	1.18	14,962	12,415	0.72	12,504
4/73	14,962	1.83	15,236	12,504	0.72	12,594
1/74	15,236	1.84	15,516	12,594	0.81	12,696
2/74	15,516	2.08	15,839	12,696	0.86	12,805
3/74	15,839	1.96	16,149	12,805	0.95	12,927
4/74	16,149	1.75	16,432	12,927	1.31	13,096

Ending Capital:

$$\$9,900 \times .7766 = \$7,688$$

$$\begin{array}{r} - \quad .77 \text{ Comm.} \\ \hline \$7,611 \end{array}$$

Ending Wealth:

$$\begin{array}{r} \text{Capital} \quad \$ 7,611 \\ \text{Dividends} \quad 3,203 \\ \hline \$10,814 \end{array}$$

TABLE 5

QUARTERLY RATES OF RETURN FROM AN ACTIVE
PORTFOLIO POLICY ASSUMING PERFECT FORESIGHT REGARDING INFLATION

Qtr/Yr	Dec.	Without Commission			With Commission				
		BW	% Ret.	EW	BW	Comm.	IW	% Ret.	EW
* 1/66	T	\$10,000	1.11	\$10,111	\$10,000	---	\$10,000	1.11	\$10,111
2/66	S	10,111	-4.25	9,681	10,111	101	10,010	-4.25	9,585
3/66	T	9,681	1.11	9,788	9,585	96	9,489	1.11	9,594
4/66	S	9,788	5.11	10,288	9,594	96	9,498	5.11	9,983
1/67	S	10,288	14.55	11,785	9,983	---	9,983	14.55	11,436
2/67	T	11,785	1.04	11,908	11,436	114	11,322	1.04	11,439
3/67	T	11,908	0.87	12,016	11,439	---	11,439	0.87	11,539
4/67	S	12,016	0.78	12,110	11,539	115	11,424	0.78	11,513
1/68	T	12,110	1.25	12,261	11,513	115	11,398	1.25	11,540
2/68	S	12,261	11.09	13,621	11,540	115	11,425	11.09	12,692
3/68	S	13,621	4.14	14,185	12,692	---	12,692	4.14	13,217
4/68	T	14,185	1.29	14,368	13,217	132	13,085	1.29	13,254
1/69	T	14,368	1.57	14,594	13,254	---	13,254	1.57	13,462
2/69	S	14,594	-2.74	14,194	13,462	135	13,327	-2.74	12,962
3/69	S	14,194	-3.51	13,696	12,962	---	12,962	-3.51	12,507
4/69	T	13,696	1.79	13,941	12,507	125	12,382	1.79	12,604
1/70	S	13,941	-2.58	13,581	12,604	126	12,478	-2.58	12,156
2/70	T	13,581	1.57	13,794	12,156	122	12,034	1.57	12,223
3/70	S	13,794	16.91	16,125	12,223	122	12,101	16.91	14,147
4/70	T	16,125	1.45	16,359	14,147	141	14,006	1.45	14,209
1/71	S	16,359	10.23	18,033	14,209	142	14,067	10.23	15,506
2/71	T	18,033	0.88	18,192	15,506	155	15,351	0.88	15,486
3/71	S	18,192	-0.34	18,130	15,486	155	15,331	-0.34	15,279
4/71	T	18,130	1.17	18,342	15,279	153	15,126	1.17	15,303
1/72	S	18,342	6.51	19,536	15,303	153	15,150	6.51	16,136
2/72	T	19,536	0.96	19,724	16,136	161	15,975	0.96	16,128
3/72	T	19,724	1.01	19,923	16,128	---	16,128	1.01	16,291
4/72	S	19,923	7.22	21,361	16,291	163	16,128	7.22	17,292
1/73	T	21,361	1.28	21,634	17,292	173	17,119	1.28	17,338
2/73	S	21,634	-5.96	20,345	17,338	173	17,165	-5.96	16,142
3/73	T	20,345	1.81	20,713	16,142	161	15,981	1.81	16,270
4/73	S	20,713	-9.51	18,743	16,270	163	16,107	-9.51	14,575
1/74	T	18,743	1.84	19,088	14,575	146	14,429	1.84	14,694
2/74	S	19,088	6.46	20,321	14,694	147	14,547	6.46	15,487
3/74	T	20,321	1.96	20,719	15,487	155	15,332	1.96	15,633
4/74	S	20,719	9.00	22,584	15,633	156	15,477	9.00	16,870



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